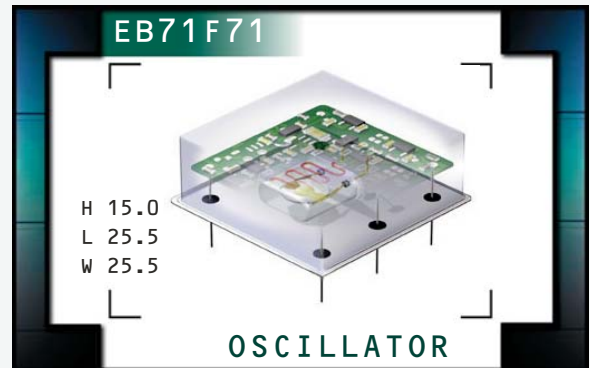


EB71F71 Series

- Oven Controlled Crystal Oscillator (OCXO)
- AT-Cut Crystal
- HCMOS output
- 5.0V supply voltage
- 5 pin DIP package
- External control voltage option available
- Stability to 30ppb



ELECTRICAL SPECIFICATIONS

Frequency Range	1.544MHz to 44.736MHz	
Operating Temperature Range (OTR)	0°C to 50°C, 0°C to 70°C, or -20°C to 70°C	
Storage Temperature Range	-55°C to 125°C	
Supply Voltage (V_{DD})	5.0V _{DC} ±5%	
Frequency Tolerance / Stability		
vs. Initial Tolerance	at Nominal V _{DD} and V _C at 25°C	±2.0ppm, ±1.5ppm, ±1.0ppm, ±500ppb, or ±300ppb Maximum
vs. Temperature Stability	at Nominal V _{DD} and V _C	±30ppb, ±50ppb, ±80ppb, ±100ppb, ±200ppb, ±280ppb, or ±500ppb Maximum
vs. V _{DD}	V _{DD} ±5%	±20ppb Maximum
vs. Load	V _{load} ±5%	±20ppb Maximum
vs. Aging (1 Day)	after 72 Hours of Operation	±3.0ppb Maximum
vs. Aging (1 Year)	after 72 Hours of Operation	±500ppb Maximum
vs. Aging (10 Years)	after 72 Hours of Operation	±3.0ppm Maximum
Crystal Cut	AT-Cut	
Warm Up Time	to ±500ppb of Final Frequency at 1 Hour at 25°C	3 Minutes Maximum
Power Consumption	at Steady State, at 25°C	2.2 Watts Maximum
	During Warm Up, at 25°C	3.0 Watts Maximum
Output Voltage Logic High (V_{OH})	I _{OH} = -8mA	V _{DD} - 0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	I _{OL} = +8mA	0.5V _{DC} Maximum
Rise Time / Fall Time	≤ 10.000MHz Measured at 20% to 80% of Waveform	10 nSec Maximum
	> 10.000MHz Measured at 20% to 80% of Waveform	6 nSec Maximum
Duty Cycle	Measured at 50% of Waveform	50 ±5(%)
Load Drive Capability	30pF HCMOS Load Maximum	
Frequency Deviation	Referenced to F ₀ at V _C = 2.5V _{DC} ; V _{DD} = 5.0V _{DC} over OTR	±7ppm Minimum, ±20ppm Maximum
Control Voltage Range	0.0V _{DC} to V _{DD}	
Control Voltage (V_C)	2.5V _{DC} ±2.0V _{DC}	
Transfer Function	Positive Transfer Characteristic	
Reference Voltage Output	4.0V _{DC} ±0.3V _{DC}	
Linearity	±10% Maximum	
Input Impedance	10kOhms Typical	
Typical Phase Noise (at 12.800MHz)	1Hz Offset	-75dBc/Hz
	10Hz Offset	-100dBc/Hz
	100Hz Offset	-130dBc/Hz
	1kHz Offset	-140dBc/Hz
	10kHz Offset	-150dBc/Hz

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EB71F71	PACKAGE 5 pin DIP	VOLTAGE 5.0V	CLASS OS2D	REV. DATE 10/03
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PART NUMBERING GUIDE

EB71F71 A 10 B V 2 - 20.000M

INITIAL TOLERANCE
 A=±2.0ppm, B=±1.5ppm, C=±1.0ppm, D=±500ppb,
 E=±300ppb

FREQUENCY STABILITY
 2 Digit Code Per Table 1

OPERATING TEMPERATURE RANGE
 1 Letter Code Per Table 1

FREQUENCY

DUTY CYCLE
 2=50% ±5%

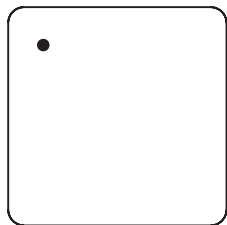
VOLTAGE CONTROL OPTION

N=None (No Connect on Pin 3 and Pin 4)
 V=Voltage Control on Pin 3 and Reference
 Voltage Output on Pin 4

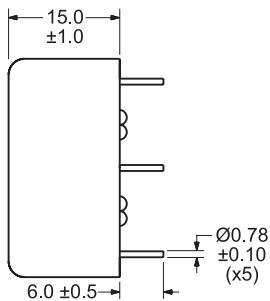
TABLE 1: PART NUMBERING CODES

Operating Temperature Range	FREQUENCY STABILITY X Denotes availability							
		±30ppb	±50ppb	±80ppb	±100ppb	±200ppb	±280ppb	±500ppb
	Code	03	05	08	10	20	28	50
0°C to +50°C	A	X	X	X	X	X	X	X
0°C to +70°C	B		X	X	X	X	X	X
-20°C to +70°C	C			X	X	X	X	X

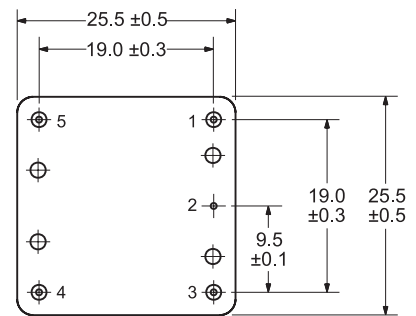
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



Pin 1: Output
 Pin 2: Case/Ground
 Pin 3: No Connect or Voltage Control



Pin 4: No Connect or Reference Voltage Output
 Pin 5: Supply Voltage



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Lead Integrity	MIL-STD-883, Method 2004
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

MARKING SPECIFICATIONS

Line 1: ECLIPTEK
 Line 2: XX.XXX M
 Frequency in MHz
 (5 Digits Maximum + Decimal)
 Line 3: XX Y ZZ
 Week of Year
 Last Digit of Year
 Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB71F71	5 pin DIP	5.0V	OS2D	10/03